DECISION RECORD

Environmental Assessment (EA) for Grazing Authorization, #DOI-BLM-NM-P010-2013-451

Decision: It is my decision to authorize the issuance of a ten year grazing permit for the Bureau of Land Management grazing allotment #63016, Nester/Ball/Buck. The permit will authorize 263 Animal Units (AU's) yearlong at 55 percent federal range for 1737Animal Unit Months (AUM's). Cattle, sheep and horses are the authorized classes of livestock. Any additional mitigation measures identified in the environmental impacts sections of the referenced environmental assessment have been formulated into stipulations, terms and conditions.

If you wish to protest this proposed decision in accordance with 43 CFR 4160.2, you are allowed 15 days to do so in person or in writing to the authorized officer, after the receipt of this decision. Please be specific in your points of protest. In the absence of a protest, this proposed decision will become the final decision of the authorized officer without further notice, in accordance with 43 CFR 4160.3. A period of 30 days following receipt of the final decision, or 30 days after the date the proposed decision becomes final, is provided for filing an appeal and petition for the stay of the decision, for the purpose of a hearing before an Administrative Law Judge (43 CFR 4.470). The appeal shall be filed with the office of the Field Office Manager, 2909 West Second, Roswell, NM, 88201, and must state clearly and concisely your specific points.

/s/ Jerry Dutchover 07/30/2013 .
Jerry Dutchover Date
Assistant Field Manager, Resources

DOI-BLM-NM-P010-2013-451-EA

FINDING OF NO SIGNIFICANT IMPACT:

I have determined that the BLM Preferred Alternative (Proposed Action - A), as described in the Environmental Assessment (EA) will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an environmental impact statement is not required. The NEPA handbook (p. 83) indicates that the FINDING OF NO SIGNIFICANT IMPACT (FONSI) must succinctly state the reasons for deciding that the action will have no significant environmental effects. It also recommends that the FONSI address the relevant context and intensity factors.

In making this determination, I considered the following factors:
1. The activities described in the BLM Preferred Alternative (Proposed Action - Alternative A) do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). The EA includes a description of the expected environmental consequences of issuing a 10 year term grazing permit on Allotment 63016.

2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)).

3. The proposed activities would not significantly affect any unique characteristics (40 CFR 1508.27(b)(3)) of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, designated wilderness areas or wilderness study areas.

4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)).

5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).

6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).

7. The effects of issuing a ten year permit would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). The EA discloses that there are no other connected or cumulative actions that would cause significant cumulative impacts.

8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). Cultural resource surveys in the allotment have been generally limited to inspections ahead of oil and gas related activities, such as well locations and pipelines. Many areas of the allotment have been generally inventoried for cultural resources. The existing cultural data for the allotment and

adjacent areas seems to be a good example of what can be reasonably expected to occur in the remainder of the allotment. No site-specific situations are known to exist where current grazing practices conflict with cultural resource preservation and management. Some mitigation is included in the proposed action to protect cultural resources from grazing practices, such as: "In the event that grazing practices are determined to have an adverse effect on cultural resources within the allotment, the BLM, in consultation with the permittee, will take action(s) to mitigate or otherwise negate the effects. This may include but is not limited to installing physical barriers to protect the affected cultural resources, relocating the livestock grazing practice(s) that is (are) causing the adverse effect(s), or any other treatment as appropriate. Pages 18-19 of the EA describe the affected environment and impacts of the proposed action and alternatives on cultural resources.

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). Within the allotment there are no known populations of threatened and endangered species, or designated critical habitat within the allotment.

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Page 3 of the EA describes the conformance with land use plans and relationships to statutes, regulations, or other plans.

APPROVED:

/s/ Jerry Dutchover 07/30/2013
Jerry Dutchover Date
Assistant Field Manager, Resource

ENVIRONMENTAL ASSESSMENT
for
GRAZING AUTHORIZATION

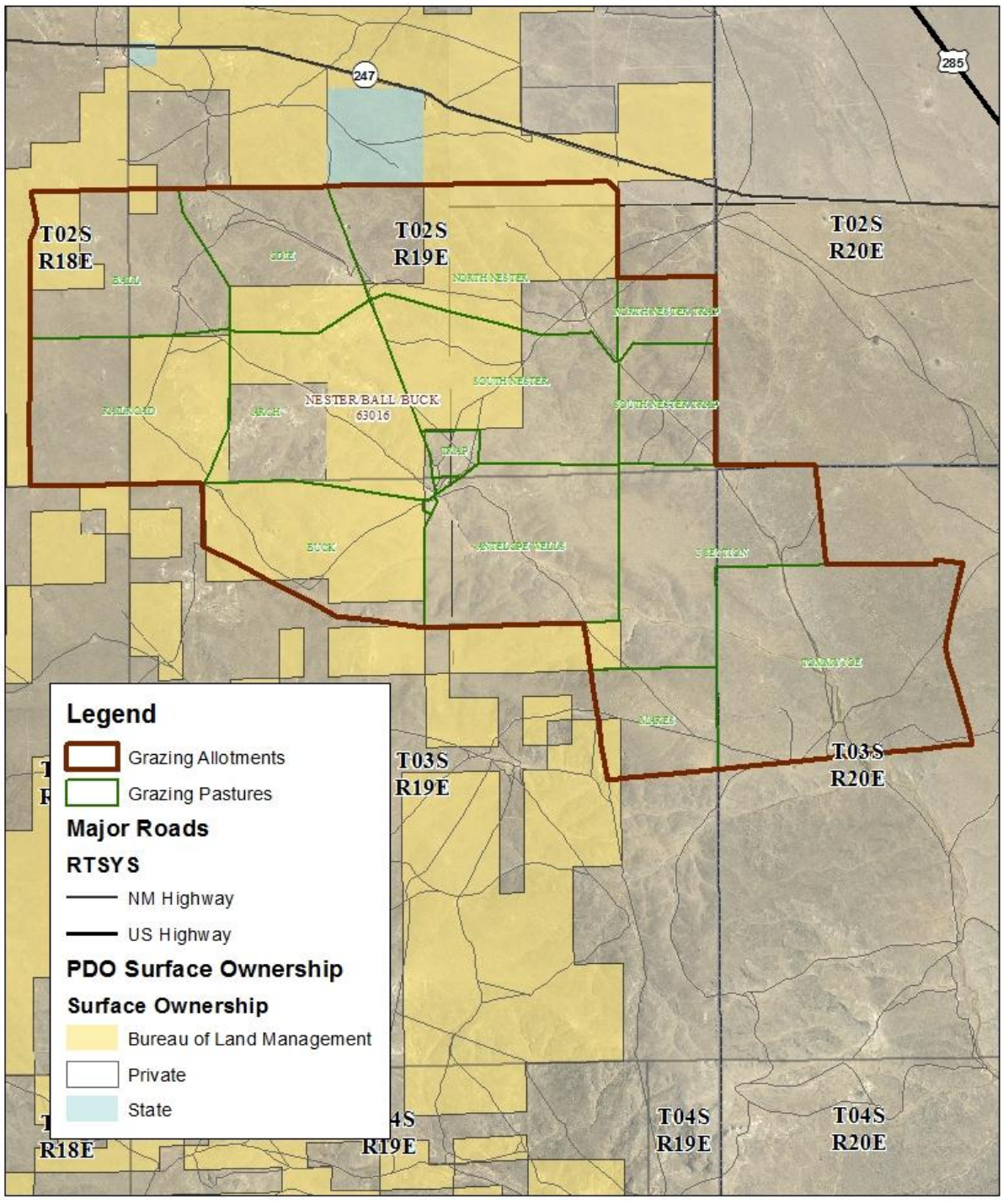
ALLOTMENT 63016

DOI-BLM-NM-P010-2013-451 EA

May, 2013

U.S. Department of the Interior
Bureau of Land Management
Roswell Field Office
Roswell, New Mexico

Allotment 63016 - Nester/Ball/Buck



I. BACKGROUND

A. Purpose and Need for the Proposed Action

The purpose of issuing a new grazing permit or lease would be to authorize livestock grazing on public range on allotment 63016, Nester/Ball/Buck. When authorizing livestock grazing on public range, the Bureau of Land Management (BLM) must conduct a site-specific NEPA analysis before issuing a permit to authorize livestock grazing. This environmental assessment fulfills the NEPA requirement by providing the necessary site-specific analysis of the effects of issuing a new grazing permit on this allotment. The permit would be needed to specify the types and levels of use authorized, and the terms and conditions of the authorization pursuant to 43 CFR §§4130.3, 4130.3-1, 4130.3-2, and 4180.1.

The scope of this environmental assessment is limited to the effects of issuing a new grazing permit on this allotment. Over time, the need could arise for subsequent management activities which relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others. Future rangeland management actions related to livestock grazing would be addressed in project specific NEPA documents as they are proposed.

Though this environmental assessment specifically addresses the impacts of issuing a grazing permit on this allotment, it does so within the context of overall BLM management goals. Allotment management activities would have to be coordinated with projects intended to achieve those other goals. For example, a vegetation treatment designed to enhance watershed condition or wildlife habitat may require rest from livestock grazing for one or more growing seasons. Requirements of this type would be written into the permit or lease as terms and conditions.

Current permitted use was based on long term monitoring and rangeland conditions which authorized grazing of 263 animal units (AUs), which corresponds to 1737 animal unit months (AUMs).[1]

B. Conformance with Land Use Planning

The proposed action conforms to the 1997 Roswell Approved Resource Management Plan (RMP) and Record of Decision; and the 2000 New Mexico Standards for Public Land health and Guidelines for Livestock Grazing Management and Record of Decision as required by 43 CFR 1610.5-3.

Relationships to Statutes, Regulations, or Other Plans

The proposal to renew the livestock grazing permit on this allotment is in conformance with the 1994 Environmental Impact Statement for Rangeland Reform; the Federal Land Policy and

1 For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

Management Act of 1976 (FLPMA) (43 U.S.C. 1700 et seq.); The Taylor Grazing Act of 1934 (TGA) (43 U.S.C. 315 et seq.); the Public Rangelands Improvement Act of 1978 (PRIA) (43 U.S.C. 1901 et seq.); the Clean Water Act (33 U.S.C. 1251 et seq.), as amended; the Endangered Species Act (16 U.S.C. 1535 et seq.) as amended; the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.); Executive Order 11988, Floodplain Management; and Executive Order 11990, Protection of Wetlands.

II. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action:

The proposed action is to issue a term permit grazing permit for the Nester/Ball/Buck allotment. The permit would authorize 261 Animal Units (AU's) yearlong at 55 percent federal range (pl) for 1,713 Animal Unit Months (AUM's) on the controlled portion of the allotment. Cattle, sheep and horses are the classes of livestock proposed for authorization. The controlled portion of the allotment contains the majority of the public land (7,080 acres), lying within North Nester, Odie, Ball, Railroad, Arch, South Nester and Buck. These pastures are designated at the Northwest Pastures. A small amount of public land (154 acres) lies in the Southeast pastures: North Nester Trap 2, South Nester Trap 2, Antelope Wells, 3 Section Pasture, Mares & Tommy Joe. These pastures also contain 8,901 acres of private land. These pastures, designated at the Southeast pastures are considered "uncontrolled" and are authorized at 2 Animal Units at 100% pl for 24 Animal Unit Months. Cattle, sheep and horses are the classes of livestock proposed for authorization.

Additionally, a rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. See Table 1 below for details of the allotment

Table 1. Animal Units/Animal Unit Months

Allotment Number	Allotment Name	Acres of Public Land	Percent Public Land	Animal Units Authorized	Animal Unit Months Authorized	Livestock	Livestock Number
63016	Nester/Ball/Buck	7233	55%	261	1723	Cattle	261
63016	Nester/Ball/Buck			1	7	Horse	1
63016	Nester/Ball/Buck			1	7	Sheep	5
Totals		**7233**		**263**	**1731**		

There would be no changes from current livestock management as conducted by the current allottee, or to existing range improvements already in place. Future projects or activities identified by the allottee or the BLM can still be considered for implementation. Rangeland monitoring along with other established resource monitoring work would continue on the allotment and changes to livestock management would be made as necessary. If new information surfaces that livestock grazing or livestock-related impacts are negatively impacting other resources, actions will be taken to mitigate those impacts.

B. No Permit authorization alternative:

This alternative would not issue a new grazing permit. There would be no livestock grazing authorized on public land within allotment #63016. Under this alternative and based on the land status pattern within the allotment, approximately 18 miles of new fences would be required to exclude grazing on the federal land.

Alternative Considered But Not Analyzed

Grazing with reduced numbers – BLM considered authorizing grazing with reduced number on this allotment. Grazing with reduced numbers would produce impacts similar to the proposed action. Additionally, this allotment meets the Standard for Public Land Health and monitoring studies do not indicate changes are necessary. Therefore, BLM will not analyze this alternative.

III. AFFECTED ENVIRONMENT

General Setting

Allotment #63016 is located in Lincoln County, approximately 30 miles south of Vaughn, New Mexico. The allotment consists of 7233 acres of public land and 14930.62 acres of private land. This allotment lies within the boundaries of the Roswell Grazing District established subsequent to the Taylor Grazing Act (TGA). Grazing authorization on Public Lands inside the Grazing District boundary is governed by Section 3 of the TGA. Livestock numbers for the ranch are controlled under this Section 3 permit, the permittee is billed for the amount of forage available for livestock on federal land. Vegetation monitoring studies are used to determine the allowable number of livestock on the ranch.

The landscape is rolling, grass covered hills dissected by arroyos and major drainages. The major drainages within this allotment are the Fifteenmile Arroyo and the Buck Draw. More detailed information of the area is discussed under the affected resources section. The climate is semi-arid with normal annual temperatures ranging from 20° F to 95° F, extremes of 29 below zero to 113 degrees are also possible. Annual precipitation can range from as low as 3 inches to a high of 21 inches, with an average of about 13-16 inches in the form of rainfall and snow.

The following resources or values are not present or would not be affected: Prime/Unique Farmland, Areas of Critical Environmental Concern, Minority/Low Income Populations, Wild and Scenic Rivers, Hazardous/Solid Wastes, Solid Minerals, Wetlands/Riparian Zones and Native American Religious Concerns. Cultural resources are not usually adversely affected by livestock grazing, although concentrated livestock activity such as around livestock water troughs can have adverse effects on the cultural resource. Prior to authorizing range improvements, a Class III Cultural Survey must be completed ensuring cultural resources will not be affected. There are several known cultural resources within this allotment. Affected resources and the impacts resulting from livestock grazing are described below.

Affected Resources

Livestock Management

Affected Environment

In the past, this allotment has been permitted to be grazed yearlong by cattle and sheep with a small percentage of horses. The current permit authorized 263 total animal units (261 Animal Units in the Northwest Pasture and 2 AUs in the Southeast Pasture). The allotment contains a total of 7,234 acres of public land and 14,931 acres of private land. Landownership is intermingled with private lands. Current range improvement projects for the management of livestock include earthern tanks, wells, and several drinking troughs with associated pipelines, pasture and boundary fences and corrals.

The allotment consists of fifteen pastures ranging from 3,111 acres in Tommy Joe to 10 acres in the smallest trap (see map). The bulk of the public land lies within the Northwest Pastures group, containing the following pastures: North Nester, Odie, Ball, Railroad, Arch, South Nester and Buck. The Southeast Pastures contain approximately 154 acres of public land and include North Nester Trap 2, South Nester Trap 2, Antelope Wells, 3 Section Pasture, Mares & Tommy Joe. Generally, the current livestock management practice used by the permittee is a simple rotation scheme, with most of the herding activity conducted on the Northwest Pastures.

The allotment was placed in the Maintain "M" Category in the early 1980's based on rangeland monitoring studies, established by the BLM. Generally, a "M" category designation indicates that the allotment met 3 of the 4 the following conditions: Has no significant resource conflicts, has only a moderate potential for improvement in forage production; has a range condition of 38 to 50 and an improving range trend or has a range condition of 51 or higher and a static or improving range trend. Other considerations could include that the allotment contains 30% or more of public land or more than 1,540 acres of public land. As shown by the data collected from 1981 to 2002, ecological condition ratings reflect a static trend (BLM, 2002).

Environmental Impacts

Under the Proposed Action, livestock would continue to graze public lands within the allotment under a grazing scheme implemented by the permittee. Existing pasture configurations and water developments would remain the same. Livestock management would incorporate a single-herd to a smaller multi herd rotation system. Existing pasture configurations and water developments would remain the same and would limit grazing management flexibility and might hinder implementation of a rest-rotation system.

Under No-Grazing Alternative, there would be no livestock grazing authorized on public lands. The public lands would have to be fenced apart from the private lands or livestock would be considered in trespass if found grazing on public land (43 CFR 4140.1(b)(1)). Exclusion of livestock from the public land would require approximately 18 miles of new fence at an approximate cost of $216,000.00 ($12,000.00/mile). This expense would be borne by the private landowner. Range improvements on public land would not be maintained and the BLM would

have to compensate the permittee if any of the improvements were cost shared at the time of their authorization.

Under No-Grazing Alternative, the overall livestock operation could be reduced by 143 AUs (those attached to the public lands) to approximately 119 AUs in the Northwestern Pastures and would be reduced by 2 AUs in the Southeastern Pastures. This would have an adverse economic impact on the permittee and the county.

Cumulative impacts of the grazing and no grazing alternatives were analyzed in Rangeland Reform '94 Draft Environmental Impact Statement (BLM and USDA Forest Service 1994) and in the Roswell Resource Area Draft RMP/EIS (BLM 1994). The no livestock grazing alternative was not selected in either document.

Vegetation

Affected Environment

This allotment is within the grassland vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Vegetative communities managed by the Roswell Field Office are identified and explained in the RMP/EIS. Appendix 11 of the draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The distinguishing feature for the grassland community is that grass species typically comprises 75% or more of the potential plant community. The community also includes shrub, half-shrub, and forb species. The percentages of grasses, forbs, and shrubs actually found at a particular location will vary with recent weather factors, past resource uses and the potential of the site. Three rangeland monitoring studies have been in place on this allotment since 1983. The Three monitoring sites are located on Shallow CP-2 ecological (range) sites. Monitoring was conducted in 1983, 1987, 1993 and 2002. The following table summarizes monitoring data for the Nest/Ball/Buck allotment:

Pasture Name	**Condition Score by Year of Study**			
	1983	**1987**	**1992**	**2002**
Bull*	53	60	56	51
Ball	51	51	69	67
Nester	58	57	58	54
*The Bull Pasture is now called the Buck pasture by the current operator				

The Roswell Resource Management Plan/Environmental Impact Statement (RMP) of October 1997 designated desired plant communities for each vegetative community. The community found on this allotment is the grassland community. Monitoring data indicates that the vegetative conditions on allotment #63016 achieve, or are moving towards, the multiple resource objectives

established in the Roswell RMP. Livestock stocking levels are within the allowable vegetation utilization range. Monitoring data and analysis are available for review at the Roswell Field Office.

Rangeland Health Assessment data was collected in fiscal year 2013. Analysis of the rangeland health assessments indicates that all three indicators (biotic, hydrology, and soils) have been met for the allotment. For a detailed analysis please contact the Roswell Field Office to review a copy of the Rangeland Health Assessment.

Noxious and Invasive Weeds

Noxious weeds affect both crops and native plant species in the same way, by out-competing for light, water and soil nutrients. Losses are attributed to decreased quality and quantity of agricultural products due to high levels of competition from noxious weeds and infestations. Noxious weeds can negatively affect livestock productivity by making forage unpalatable to livestock thus decreasing livestock productivity and potentially increasing producer's feed costs. Potential noxious weed species include musk thistle and Russian knapweed. Russian knapweed, hoary cress and musk thistle are documented along US Highway 285.

Environmental Impacts

Vegetation will continue to be grazed and trampled by domestic livestock as well as other herbivores. The area has been grazed by livestock since the early part of the 1900's, if not longer. The area evolved with large ungulate animal species and native vegetation is accustomed to herbivory. Ecological condition and trend is expected to remain stable and/or improve over the long term with the proposed authorized number of livestock and existing pasture management. Rangeland monitoring data indicates that there is an adequate amount of forage for the multiple resource use objectives.

Under the No-Grazing Alternative, no impacts to vegetation resources would occur on public lands from authorized livestock grazing. Vegetation cover would increase over the long term in some areas. Grasslands in the uplands would increase in cover and composition. Alkali sacaton in the bottomlands would, in the short term, increase in cover and composition but would then taper off in the long term, becoming decadent from the lack of standing vegetation removal by grazing.

Soils

Affected Environment

The Soil Conservation Service, now the Natural Resource Conservation Service (NRCS), has surveyed the soils in Lincoln County. Complete soil information is available in the Soil Survey of Lincoln County, New Mexico, (USDA Soil Conservation Service 1983) and online at http://websoilsurvey.nrcs.usda.gov/app/. The soil map units represented in the allotment area are:

Deama Pastura association, moderately sloping, 0 to 15 percent slopes (13) Permeability of the Deama soil is moderate. Runoff is rapid, and the hazard of water erosion is high. The hazard of

soil blowing is slight. Permeability of the Pastura soil moderate. Runoff is rapid, and the hazard of water erosion is high. The hazard of soil blowing is high.

Pastura Loam, Gently sloping 0-8 percent slopes (53) Permeability of this Pastura soil is moderate. Runoff is rapid, and hazard of water erosion is high. The hazard of soil blowing is high.

Environmental Impacts

Under the Proposed Action, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management were inadequate, these effects could be severe enough to reduce infiltration rates and increase runoff, leading to greater water erosion and soil losses (Moore et al. 1979, Stoddart et al. 1975). Producing forage and protecting the soil from further erosion would then be more difficult. The greatest impacts of removing vegetation and trampling would be expected in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

Under the Proposed Action (no action) rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion. Low/moderate forage quality plants provide protection to the soils resource. Cumulative long term monitoring data reflect the soils are being adequately protected.

Under No-Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Floodplains

Affected Environment

Within this allotment, floodplains exist that are recorded on Federal Emergency Management Agency maps. The identified floodplains are those mentioned under the general setting above. Water pipelines and fences cross the floodplains within this allotment. Any future permanent structures or improvements will be analyzed on a site specific basis prior to approval within the floodplains.

Environmental Impacts

No impacts to the floodplains are known, by keeping structures out of floodplains, impacts should not occur. Under the Proposed action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the floodplain values. Low/moderate forage quality plants provide protection to the floodplain values. Cumulative long-term monitoring data reflect the floodplain values are being adequately protected.

Under the No-Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Watershed-Hydrology

Affected Environment

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and powerlines.

Environmental Impacts

Livestock grazing management and range improvement projects can result in long-term and short-term alterations to the hydrologic regime. Peak flow and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of the well pad and road. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and to be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long-term direct and indirect impacts to the watershed and hydrology would continue for the life of the livestock grazing management and range improvement projects and would decrease once reclamation of the range improvement projects has taken place. Short-term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

Under the Proposed Action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the hydrologic regime. Low/moderate forage quality plants provide protection to the soils resource and hydrologic regime. Cumulative long-term monitoring data reflect the hydrologic regime is being adequately protected.

Under the No-Grazing Alternative, any adverse impact from livestock grazing management and range improvement projects would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Water Quality

Affected Environment – Surface Water

No perennial surface water is found on the Public Land on this allotment.

Environmental Impacts – Surface Water

In general, livestock grazing is considered a potential cause of nonpoint source pollution, with sediment as the primary contaminant. Livestock grazing on the allotment, however, not expected to be significant cause of sediment loading to the Pecos River under any management alternative. Therefore, sediment loading due to livestock grazing on the allotment would not be expected to significantly affect water quality under any alternative.

Affected Environment - Ground Water

Depth to water data is not available for this allotment (New Mexico State Engineer 1995). Fresh usable groundwater is available within the San Andres Formation and Quaternary Piedmont Alluvial deposits which outcrop in the area of the allotment. The deep water in the San Andres has a depth range of 750 ft to 800 ft.

Environmental Impacts – Ground Water

Livestock grazing would not be expected to have a significant impact on ground water quality. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants. The WQCC has the primary responsibility for ground water quality management in New Mexico. In their most recent report on water quality in New Mexico, the WQCC (1996) did not find livestock grazing on rangelands to be an important potential source of contamination to ground water.

Wilson (1981) also presented potential sources of ground water contamination and the relative vulnerability of aquifers in New Mexico. He identified animal confinement facilities (e.g., dairies, feedlots) as potential sources of contamination elsewhere in New Mexico, including areas in the Pecos valley downstream from the allotment. Wilson did not identify livestock grazing on rangelands, however, as an important potential source of ground water contamination.

Cumulative impacts to ground water quality from grazing on Allotment 63016 would be negligible. Grazing impacts would be insignificant when compared to other potential sources of contamination, such as mineral development, saline intrusion, and agriculture.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Wildlife

Affected Environment

A general description of wildlife occupying or potentially utilizing the proposed action area is located in the Affected Environment Section (p. 3-62 to 3-71) of the Draft Roswell RMP/EIS (9/1994). This allotment is within the Macho Habitat Management Area and is fenced with net-wire. Game species occurring within the area include mule deer, pronghorn antelope, mourning dove, and scaled quail. Raptors that utilize the area on a more seasonal basis include the Swainson's, red-tailed, and ferruginous hawks, American kestrel, and great-horned owl. Numerous passerine birds utilize the grassland areas due to the variety of grasses, forbs, and shrubs. The most common include the western meadowlark, mockingbird, horned lark, killdeer, loggerhead shrike, and vesper sparrow. Resident bats are primarily Townsend's Western Big-eared Bat, Small-footed Bat and Cave Myotis.

The warm prairie environment supports a large number of reptile species compared to higher elevations. The more common reptiles include the short-horned lizard, lesser earless lizard, eastern fence lizard, coachwhip, bullsnake, prairie rattlesnake, and western rattlesnake.

Environmental Impacts

Domestic livestock will continue to utilize vegetative resources needed by a variety of wildlife species for life history functions within this allotment. The magnitude of livestock grazing impacts on wildlife is dependent upon the species of wildlife being considered, and it's habitat needs. In general, livestock stocking rate adjustments have been made in the past to minimize the direct competition for those vegetative resources needed by a variety of wildlife species. Cover habitat for wildlife will remain the same as the existing situation. Maintenance and operation of existing waterings will continue to provide dependable water sources for wildlife, as well as livestock.

Pursuant to Federal Register notices, all known Roswell Field Office hibernacula are temporarily closed to public entry from January 25, 2011 to no later than January 25, 2015 to monitor for the presence of White Nose Sydrome and prevent its spread if it arrives. Any proposed entry whatsoever of these caves must be formally proposed to the Pecos District Cave management Team, and full-scale decontamination procedures must be followed (http://static.whitenosesyndrome.org/sites/default/files/resource/national_wns_revise_final_6.25.12.pdf)

Threatened and Endangered Species

Affected Environment

There are no known resident populations of threatened or endangered species on this allotment. A list of federal threatened, endangered, and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell RMP (AP11-2). Of the listed species, avian species such as the bald eagle and peregrine falcon may be observed in the general geographic area during migration or the winter months. There are no known records of these species having occurred on the allotment, and no designated critical habitat areas are within the allotment.

Environmental Impacts

Livestock grazing resulting from issuing a grazing permit, may affect, but not likely to adversely affect the bald eagle. It is expected that habitat and range condition would be maintained or improved by authorizing grazing conducive with multiple resource vegetative production goals. Habitat for wintering bald eagles would not be negatively impacted by livestock grazing. There would be no impact to the peregrine falcon since important riparian nesting sites are not found on this allotment.

Air Quality

Affected Environment

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility.

Air quality in the region is generally good. The allotment is in a Class II area for the Prevention of Significant Deterioration of air quality as defined in the public Clean Air Act. Class II areas allow a moderate amount of air quality degradation.

Environmental Impacts

Dust levels under the proposed action would be slightly higher than under the no grazing alternative due to allotment management activities. The levels would be within the limits allowed in a Class II area for the Prevention of Significant Deterioration of air quality. Air quality in the region is generally good, with winds averaging 10-16 miles per hour depending on the season. Peak velocities reach more than 50 miles per hour in the spring. These conditions rapidly disperse air pollutants in the region.

Air quality would temporary be directly impacted with pollution from enteric fermentation (ruminant livestock), chemical odors, and dust. Dust levels resulting from allotment management activities would be slightly higher under the Proposed Action than No-Grazing Alternative. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

The federal Clean Air Act requires that air pollutant emissions be controlled from all significant sources in areas that do not meet the national ambient Air quality standards. The New Mexico Air Quality Bureau is responsible for enforcing the state and national ambient air quality standards in New Mexico. At the present time, the counties that lie within the jurisdictional boundaries of the Roswell Field Office are classified as in attainment of all state and national ambient air quality standards as defined in the CAA of 1972, as amended.

The Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the National Ambient Air Quality Standard (NAAQS) for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM2.5, was lowered to 35 ug/m^3 from the previous standard of 65 ug/m^3. This revised PM2.5 daily NAAQS was promulgated to better protect the public from short-term particle exposure. The significant threshold of 35 ug/m^3 daily PM2.5 NAAQS is not expected to be exceeded under the proposed action

Climate

Affected Environment

Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. GHG's and the potential effects of GHG emissions on climate are not regulated by the EPA, however climate has the potential to influence renewable and non-renewable resource management.

Greenhouse gases, including carbon dioxide (CO2) and methane (CH4), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total US GHG emissions were over 6 billion metric tons and that total US GHG emissions have increased by 14.1% from 1990 to 2006. The report also noted that GHG emissions fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation. The levels of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHG's result in behavioral and industrial adaptations.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

A 2007 US Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses." It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed lease parcels and subsequent actions.

In New Mexico, a recent study indicated that the mean annual temperatures have exceeded the global averages by nearly 50% since the 1970's (Enquist and Gori). Similar to trends in national data, increases in mean winter temperatures in the southwest have contributed to this rise. When compared to baseline information, periods between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming is greatest in the northwestern, central, and southwestern parts of the state.

Environmental Impacts

Climate change analyses are comprised of several factors, including greenhouse gases (GHGs), land use management practices, the albino effect, etc. The tools necessary to quantify climatic impacts from the Proposed Action are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined. Additionally, specific levels of significance have not yet been established. Therefore, climate change analysis for the purpose of this document is limited to accounting and disclosing of factors that may contribute to climate change. Qualitative and/or quantitative evaluation of potential contributing factors within the planning area is included where appropriate and practicable.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

Recreation

Affected Environment

Since this allotment has no facility based recreational activities, only dispersed recreational opportunities occur on these lands. Recreational activities that may occur include hunting, caving, sightseeing, Off Highway Vehicle Use, primitive camping, horseback riding and hiking.

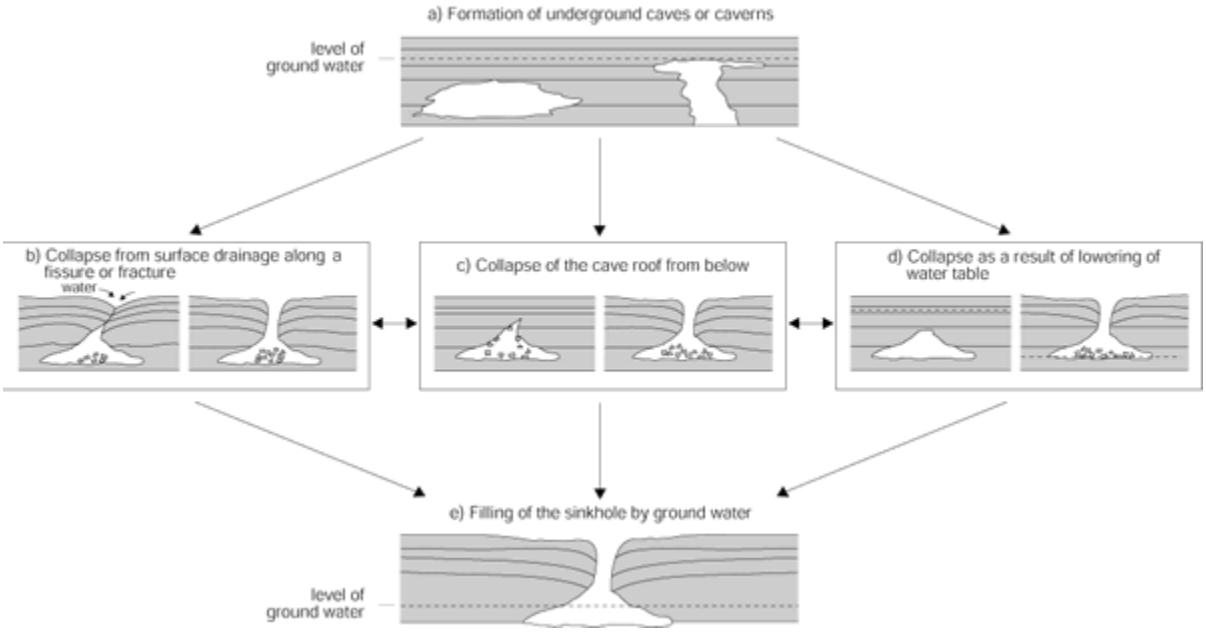
Environmental Impacts

Off Highway Vehicle designation for public lands within this allotment are classified as "Limited" to existing roads and trails. Due to the fact that pubic land boundaries are not marked adequately or identified by signs and/or fences, the general public may be reluctant to use these public lands in fear of being in trespass on private land. Grazing should have little or no impact on the dispersed recreational opportunities within this allotment. The evidence or presence of livestock can negatively affect visitors who desire solitude, unspoiled landscape views, or to hike without seeing signs of livestock. However, grazing can benefit some forms or recreation, such as hunting, by creating new water sources for game animals.

Cave and Karst

Affected Environment

This allotment is located within a designated area of High Karst and Cave Potential. An 80% significant cave or karst inventory has been completed for the public lands located in this grazing allotment. This allotment is located within a designated area of High Karst or Cave Potential. An 85% inventory of significant cave or karst features has been completed for public land located in this grazing allotment, and caves and sinkholes have been documented in this area. At least two significant caves are located within this allotment: *Velcro Cave* and *Natural Bridge Cave***.**



Sinkhole Development

http://geoinfo.nmt.edu/tour/state/bottomless_lakes/home.html)

There are also several associated notable sinkholes. Karst features are derived from dissolved limestone and gypsum from which caves and sinkholes can form, under the definition of caves in the Federal Cave Resource Protection Act of 1988.

Environmental Impacts

Numerous sinkholes exist in the area and there are likely additional caves that have not been recorded. Livestock grazing could be affected by the presence of karst features if livestock became entrapped in deep sinkholes, which has occurred with sheep grazing on karst land north of Roswell. This could be prevented by creating exclosures around identified karst features that pose a hazard to livestock. In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.

✱A separate Environmental Analysis would be prepared to construct an exclosure fence.

✱In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.

✱If at a later date, more significant caves or karst features are found on public land within the allotment, that cave or feature may be fenced to exclude livestock grazing and off highway vehicle use.

✱Any cave or karst feature, such as a deep sinkhole, discovered by the co-operator/contractor or any person working on the co-operator's/contractor behalf, on BLM-managed public land shall be immediately reported to the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate action(s). Any decision as to the further mitigation measures will be made by the Authorized Officer after consulting with the co-operator/contractor.

Visual Resources

Affected Environment

The setting presents a winter gray color pattern and in warm months, with foliage, a gray to gray-green color pattern. Wide-area landscape tends to be horizontal in line and flat in form, with a smooth texture. The allotment is located within a Class IV Visual Resource Management area. This means that contrasts may attract attention and be a dominant feature in the landscape in terms of scale. However, the changes should repeat the basic elements of the landscape.

Environmental Impacts

The basic landscape elements of form, line color and texture would not change within the allotments under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future. Range facilities such as windmills and fences tend to be a translucent grey in color and blend favorably with grey and grey-green settings. To blend favorably with the setting tanks would be low profile, not exceeding 8 feet high, and painted a flat grey or grey-green color. Other translucent colors, such as juniper green and brown can be used, as long as they blend with the setting.

Cultural Resources

Affected Environment

The project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 12,000-8,000 B.C.), Archaic (ca. 8000 B.C. –A.D. 950), Ceramic (ca. A.D. 600-1540) Protohistoric and Spanish Colonial (ca. A.D. 1400-1821), and Mexican and American Historical (ca. A.D. 1822 to early 20th century). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in *Living on the Land: 11,000 Years of Human Adaptation in*

Southeastern New Mexico An Overview of Cultural Resources in the Roswell District, Bureau of Land Management published in 1989 by the U.S. Department of the Interior, Bureau of Land Management.

Environmental Impacts

Concerning cultural resources, grazing has the potential for impacts. The Roswell Field Office reviews the local office and New Mexico Cultural Resource Information System databases for every grazing permit or leasing action at both the Environmental Assessment level and the Documentation of NEPA Adequacy level. In situations where sensitive sites lie within an allotment, site specific visits may be conducted to assess the presence of effects. Six surveys and no sites have been reported in this allotment. Currently, there is no evidence that grazing activities at this intensity have adversely impacted any cultural resources; however, unforeseen impacts may occur.

Mitigation

Any future range improvement involving earth disturbing activities will require a cultural resource inventory prior to approval.

Native American Religious Concerns

Affected Environment

To date, the areas to be affected by the current project have not been identified by interested tribes as being of tribal concern.

Environmental Impacts

A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

Paleontology

Affected Environment

The BLM manages paleontological resources for their scientific, educational, and recreational values in compliance with the Paleontological Resources Preservation Act (PRPA) of 2009. The PRPA affirms the authority for many of the policies the Federal land managing agencies already have in place for the management of paleontological resources such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The statute provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

The BLM classifies geologic formations to indicate the likelihood of significant fossil occurrence (usually vertebrate fossils of scientific interest) according to the Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (IM 2008-011). These classifications, Classes 1 to 5, determine the procedures to be followed prior to granting a paleontological clearance to proceed with a project.

All paleontological resource stipulations will be followed as indicated in the attached COAs. These stipulations may include, but are not limited to, altering the location or scope of the project, permanent fencing or other physical, temporary barriers, monitoring of earth disturbing construction, project area reduction or specific construction avoidance zones, and fossil recovery.

If the assessment of proposed action indicates a reasonable expectation of adverse impacts to significant paleontological resources, a field survey will be necessary to properly document and recover any fossil material and associated data. Upon review, a determination for final project clearance and stipulations shall be issued by the BLM RFO.

Environmental Impacts

The Potential Fossil Yield Classification (PFYC) data indicate the Proposed Action is within an area designated as Class II. The Proposed Action would not affect any known scientifically significant paleontological resources, however, surface disturbing activities and increased human access could produce unexpected discoveries and potential paleontological resource damage. Direct impacts could include damage or destruction during construction, with subsequent loss of information. Indirect impacts would include fossil damage or destruction by erosion due to surface disturbance.

If previously undocumented paleontological sites are encountered during surface disturbing activities, the project proponent will immediately stop all surface disturbing activities in the immediate vicinity of the discovery. The proponent with then immediately notify the paleontological monitor (if required) or the BLM RFO paleontology resource staff. It is necessary to protect fossil material and their geological context upon discovered during surface disturbing activities. The BLM RFO paleontology resource staff would then evaluate the site. Should the discovery be evaluated as significant, it will be protected in place until mitigation measures can be developed and implemented according to guidelines set by the BLM. Mitigation measures such as data and fossil recovery may be required by the BLM to prevent impacts to newly identified paleontological resources.

If paleontological resources (large, conspicuous or of significant scientific value) are discovered during surface disturbing activities or construction of the project, the find will be reported to the Authorized Officer immediately. Surface disturbing activities and construction operations will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the

cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

Public Health and Safety

The project will not be detrimental to the public health. The co-operator/contractor will insure that all phases of the project operations are conducted in a workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment.

Construction operations and other activities will be conducted in a safe workman like manner. No impacts are anticipated to occur.

IV. CUMULATIVE IMPACTS

A cumulative impact is defined in 40 CFR 1508.7 as:

> …the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The specific resources being impacted are limited to those that are most important in terms of impacts resulting from remedial actions needing to be implemented to improve current environmental conditions. The analysis of cumulative impacts is driven by major resource issues. The action considered in this environmental assessment (EA) is the authorization of livestock grazing on Allotment 63016.

The incremental impact of issuing a grazing permit on these resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments along the Pecos River; oil and gas activities on the river floodplain and on the uplands; rights of way crossing the river; and recreation use, particularly off highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land. In addition, significant impacts could result from reservoir management and the manipulation of river flows, and agricultural activities (e.g. dairies, crop production, and irrigation diversions and return flows).

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open range livestock grazing in the last century are still being addressed today. Sumner Dam, the principal structure controlling river flows in this reach, was built in 1937. Major irrigation projects were begun in the 19th century. All these activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

The Proposed Action would not add incrementally to the cumulative impacts to threatened and endangered species, or to Pecos River water quality. The conclusion that impacts to these resources from grazing authorization would not be significant are discussed in detail in Section III of the EA. Incremental impacts to riparian/wetland habitat from livestock grazing are possible, however.

If the No Grazing Alternative were chosen, some adverse cumulative impacts to riparian/wetland habitat would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed. For example, alkali sacaton in the bottomlands would likely become decadent without livestock impact, and control of exotic plant species such as saltcedar would be less likely without allotment management. Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of livestock grazing on these allotments. The cumulative impacts to these allotments and adjacent allotments are insignificant.

While global and national inventories of GHG are established, regional and state-specific inventories are in varying levels of development. Quantification techniques are in development – for example, there is a good understanding of climate change emissions related to fuel usage; however measuring and understanding the effects are less comprehensive. Analytical tools necessary to quantify climatic impacts are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined.

Due to the absence of regulatory requirements to measure GHG emissions it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of renewing grazing leases. Some general assumptions however can be made: livestock, operating vehicles to support livestock grazing, and vehicles transporting livestock contribute to GHG emissions.

The New Mexico Greenhouse Gas Inventory and Reference Case Projection 1990-2020 (Inventory) states agricultural activities, including manure management, fertilizer use and livestock account for 7% of New Mexico's total GHG emissions. The Inventory estimates approximately 6.4 million metric tons GHG emissions are projected by 2010 from all agricultural activities in the state. The Inventory states that GHG emissions from livestock, agriculture soil management and field burning were about 6.2 MMT of CO_2 equivalents in 2004. The Inventory makes the assumption that dairy cattle production will grow at the same rate as the general population and no growth in the other categories within agriculture.

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. However, potential impacts to natural resources and plant and animal species due to climate change are likely to be varied, including those in the southwestern United States. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from

drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated.

Due to loss of habitat or competition from other species whose ranges may shift northward, the population of some animal species may be reduced or increased. Less snow at lower elevations would likely impact the timing and quantity of snowmelt, which, in turn, could impact water resources and species dependant on historic water conditions. Forests at higher elevations in New Mexico, for example, have been exposed to warmer and drier conditions over a ten year period. Should the trend continue, the habitats and identified drought sensitive species in these forested areas and higher elevations may also be more affected by climate change.

V. MITIGATION MEASURES

Vegetation monitoring studies will continue if a new grazing permit was issued under the Proposed Action. Changes to livestock management would be made if monitoring data showed adverse impacts to the vegetation. If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken at that time to mitigate those impacts.

VI. RESIDUAL IMPACTS

Residual impacts are direct, indirect, or cumulative impacts that would remain after applying the mitigation measures. Residual impacts following authorization of livestock grazing would be insignificant if the mitigation measures are properly applied.

VII. SOCIO-ECONOMIC FACTORS

The Proposed Action as outlined in this document is not anticipated to alter the socio-economic conditions for either the permittee or Lincoln County. Should the No-Grazing Alternative be adopted, economic impacts would occur. Lincoln County would lose tax revenues on approximately 145 head of cattle annually.

Under the No-Grazing Alternative, it would be the responsibility of the permittee to prevent livestock from grazing on the public lands. To accomplish this, the permittee would most likely have to construct fences to exclude the public land. Approximately 18 miles of new fence would be needed at a cost of approximately $216,000.00 ($12,000.00/mile). BLM would also have to provide compensation to the permittee for their interest in authorized range improvements due to the exclusion of livestock grazing. These costs could be reduced or mitigated by land exchanges with either the state or the permittee to block up the public land.

IX. BLM TEAM MEMBERS

Helen Miller - Rangeland Management Specialist
Adam Ortega - Rangeland Management Specialist
Emily Peterson – Rangeland Management Specialist
Kyle Arnold - Rangeland Management Specialist
Mike McGee - Hydrologist
Jeremy Iliff - Archaeologist
Glen Garnand – Environmental Coordinator
Chris Brown – Outdoor Recreation Planner
Mike Bilbo – Cave Specialist
Dan Baggao – Wildlife Biologist
Al Collar – Geologist
John Simitz - Geologist

Bureau of Land Management, Roswell Field Office
Environmental Assessment Checklist, DOI-BLM-NM-P010-2013-451 EA

Resources	Not Present on Site	No Impacts	May Be Impacts	Mitigation Included	BLM Reviewer	Date
Air Quality			X	X	/s/ Michael McGee SWA Spec/Hydrologist	6/18/2013
Soils			X	X		
Watershed Hydrology			X	X		
Floodplains			X	X		
Water Quality – Surface			X	X		
Water Quality - Ground			X	X	/s/ Michael McGee Geologist/Hydro	6/18/2013
Cultural Resources			X	X	/s/ Laura Hronec Archaeological Technician	5/29/2013
Native American Religious Concerns	X					
Paleontology	X				/s/ Al Collar Geologist	06/26/2013
ACEC	X				/s/ Glen Garnand Plan & Environ Specialist	7/15/2013
Farmlands, Prime or Unique	X				/s/ Vanessa Bussell Realty Specialist	6/18/2013
Rights-of-Way		X				
Invasive, Non-native Species		X			/s/ Helen Miller Range Mgmt Spec.	06/27/2013
Vegetation			X	X		
Livestock Grazing			X	X		
Wastes, Hazardous or Solid		X			/s/ Al Collar Geologist	06/26/2013
Threatened or Endangered Species	X				/s/ D Baggao Wildlife Biologist	7/10/2013
Special Status Species	X					
Wildlife			X	X		
Wetlands/Riparian Zones	X					
Wilderness	**X**				/s/ Michael J. Bilbo Recreation, VRM, Karst	5/21/2013
Recreation		**X**				
Visual Resources			**X**	**X**		
Cave/Karst			**X**	**X**		
Environmental Justice		X			/s/ Al Collar Geologist	06/26/2013
Public Health & Safety		X				
Solid Mineral Resources		X			/s/ Al Collar Geologist	06/26/2013
Fluid Mineral Resources		X			/s/John S. Simitz Geologist	May 28, 2013